

No. 728,858.

PATENTED MAY 26, 1903.

E. H. BYER.

WISE.

APPLICATION FILED AUG. 15, 1902.

NO MODEL.

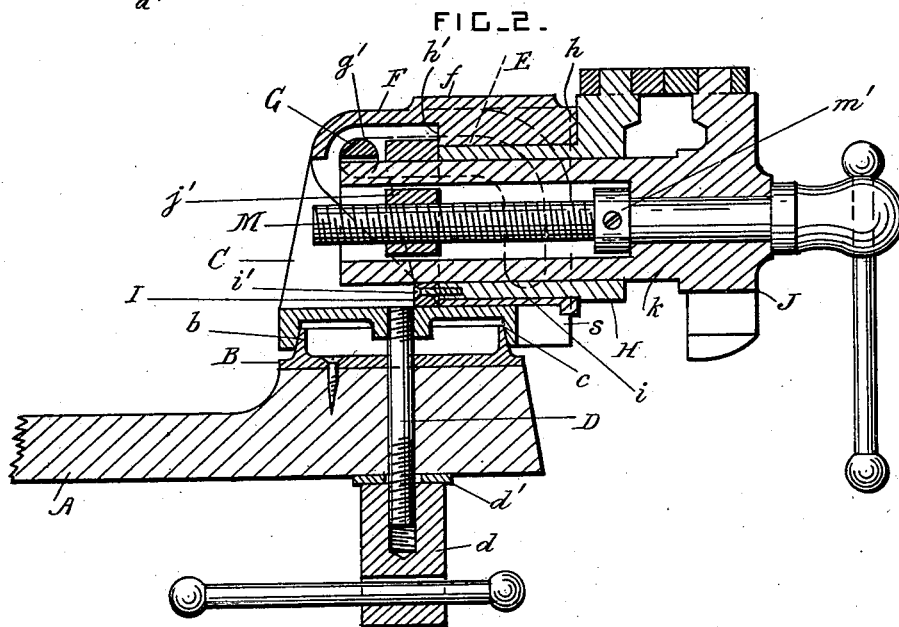
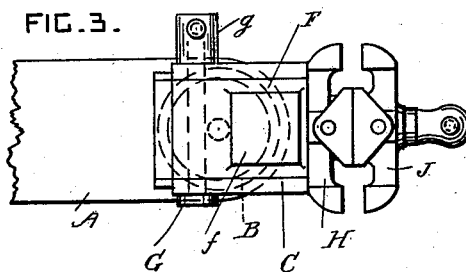
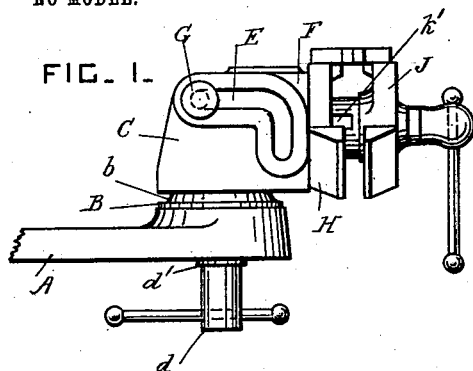


FIG. 4.

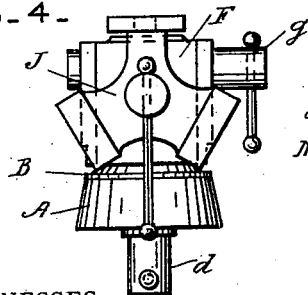


FIG. 5.

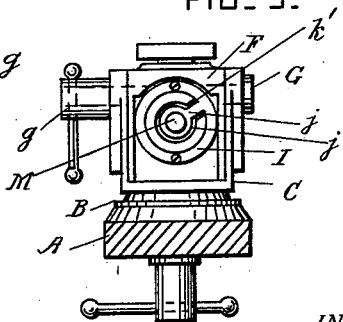
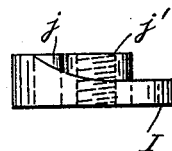


FIG. 6.



WITNESSES

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SPECIFICATION forming part of Letters Patent No. 728,858, dated May 26, 1903.

Application filed August 15, 1902. Serial No. 119,729. (No model.)

To all whom it may concern:

Be it known that I, EDGAR H. BYER, a citizen of the United States, residing at Waynesboro, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Vises; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to vises used by jewelers and others who do fine work; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the vise. Fig. 2 is a longitudinal section through the vise, drawn to a larger scale. Fig. 3 is a plan view. Fig. 4 is a front end view. Fig. 5 is a rear end view. Fig. 6 is a detail view of the collar and the nut for the vise-screw.

A is a supporting-base, which may be secured to any work bench or table, or it may be the work table or bench itself.

B is a circular base-plate secured to the base A and having a conical bearing *b*.

C is a forked bracket having a conical socket *c*, which is journaled on the bearing *b*.

D is a center pin which is secured in the bracket C and which projects through holes in the base-plate B and base A. A nut *d* is screwed on the lower end of the pin D and bears against a washer *d'* on the under side of the base A. When the nut *d* is tightened, the bracket is securely clamped to the base-plate.

The forked bracket C has guide-slots E in its sides. These slots are horizontal for the greater portion of their length, and their front ends are curved downwardly and arranged in a vertical position.

F is a block which rests on the bottom of the bracket C and which has an anvil-face *f* at its top. The block F is slidable longitudinally in the bracket C, and it is provided at its rear upper part with a pin G, the end portions of which form pivots which are slidable in the slots E.

The block F can be turned pivotally to any

desired position irrespective of the position of the pivot-pin in the slots E. The pivot-pin G is provided at one end with a clamping-nut *g*, which secures the block to the bracket in any desired position.

The block F has a recess *g'* at its rear part, and it has two parallel faces *h* and *h'*, the face *h* being at its front end and the face *h'* at its rear part in the recess *g'*.

H is the inner jaw-head of the vise, which bears against the face *h* of the block and which is provided with a sleeve *i*, which is journaled in a hole or bearing in the said block.

I is a collar which is secured to the end of the sleeve *i* by screws *i'* or in any other approved manner. The collar is arranged in the recess *g'* and bears against the face *h'*, so that the jaw-head H cannot slide longitudinally, but is normally free to revolve in the block F.

The collar I has an inwardly-projecting arm *j*, which carries a nut *j'* for the vise-screw to engage with. This nut *j'* is arranged upon the axis of the sleeve *i*.

J is the outer jaw-head provided with a tubular bearing *k*, which is slidable longitudinally in the sleeve *i*. This tubular bearing has a slot *k'* in one side, which engages with the arm *j*, so that the two jaw-heads always revolve together, and the nut *j'* is supported inside the bearing *k*. The jaw-heads are provided with a plurality of opposed jaws of approved shape for holding a great variety of small objects.

M is the vise-screw, provided with a suitable handle for revolving it. The vise-screw engages with the nut *j'* and is journaled in the outer jaw-head J. A collar *m'* is secured on the vise-screw inside the tubular bearing *k* to prevent the vise-screw from sliding in the outer jaw-head.

The front edge of the bottom of the forked bracket is notched or cut away at *s*, so as to clear the tubular bearing *k* and the vise-screw when the block is drawn forward and tilted up and the pivot-pin G is in the bottom ends of the vertical portions of the slots E.

Both jaw-heads are normally free to revolve, but when any object is secured be-

tween them the vise-jaws cause the inner jaw-head to be pressed hard against the face *h* of the block. This clamps the jaw-heads, so that they cannot be revolved until the vise-screw is turned back, so as to release the object.

A great variety of objects can be held between the vise-jaws in many different positions, so that this device forms a very useful tool.

10 What I claim is—

1. In a vise, the combination, with a forked supporting-bracket having 7-shaped slots in its sides, of a tilting block slidable in the said bracket and provided with pivots which engage with the said slots, means for clamping the said block to the said bracket, and vise-jaws carried by the said block, substantially as set forth.

2. In a vise, the combination, with a forked supporting-bracket having slots in its sides, said slots having horizontal rear end portions and downwardly-curved and vertical front end portions, of a block slidable in the said bracket and provided with pivots which engage with the said slots, means for clamping the said block to the said bracket, and vise-jaws carried by the said block, substantially as set forth.

3. In a vise, the combination, with a forked supporting-bracket having 7-shaped slots in its sides, of a tilting block slidable in the said bracket and provided with a pin at its upper rear portion which engages pivotally with the said slots, means for clamping the said block to the said bracket, and vise-jaws carried by the said block, substantially as set forth.

4. In a vise, the combination, with a bear-

ing-block provided with parallel front and rear faces, and means for supporting the said block; of an inner jaw-head bearing against the said front face and provided with a sleeve which is journaled in the said bearing-block, a collar secured to the said sleeve and bearing against the said rear face and provided with an inwardly-projecting arm and a nut, an outer jaw-head provided with a tubular slotted bearing slidable in the said sleeve and engaging with the said arm, and a vise-screw journaled in the said outer jaw-head and engaging with the said nut and operating to clamp the jaw-heads to the said block, substantially as set forth.

5. In a vise, the combination, with a forked supporting-bracket having slots in its sides, of a block slidable in the said bracket and provided with a pin at its upper rear portion which engages pivotally with the said slots, an inner jaw-head provided with a sleeve which is journaled in the said block, means for preventing the said sleeve from sliding endwise, an outer jaw-head provided with a tubular bearing which slides endwise in the said sleeve and passes under the said pin, a nut supported from the said sleeve, and a vise-screw journaled in the said outer jaw-head and engaging with the said nut, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR H. BYER.

Witnesses:

J. STOVER WINGERT,
G. M. YOST.